GOVERNMENT OF INDIA
WATER RESOURCES
LOK SABHA

STARRED QUESTION NO:360
ANSWERED ON:07.04.2003
DAMS IN SEISMIC ZONES
SHRINIWAS DADASAHEB PATIL

Will the Minister of WATER RESOURCES be pleased to state:

(a) whether the Government propose to check the stability of dams in seismic zones in various parts of the country;

(b) if so, the details thereof, State-wise;

(c) the number of dams under seismic zones; and

(d) the steps taken by the Government to set-up alarm system along the banks of the rivers?

Answer

THE MINISTER OF WATER RESOURCES (SHRI ARJUN CHARAN SETHI)

(a) to (d) A Statement is laid on the Table of the House. STATEMENTREFERRED TO IN REPLY TO PARTS (a) TO (d) OF LO SABHA STARRED QUESTION NO.360 FOR ANSWER ON 07.04.2003 REGARDING DAMS IN SEISMIC ZONES

(a) to (d) Construction, maintenance and safety of dams are the responsibility of the owners of the dams that is the concerned State Governments etc. The Central Government is not conducing any dam-wise studyon the stability of dams in seismic zones in various parts of the country. As per the Bureau of IndianStandards (BIS)Code IS: 1893 revised in year 2002there are 4 seismic zones. This code provides the criteria and procedure for the seismic design of structures including dams for the various seismic zones. The seismic design parameters vary for each seismic zone with severity being minimum for Zone II and maximum for Zone V. In addition to the general provisions in the above Standard, there is a National Committee on Seismic Design Parameters (NCSDP)for River Valley Projects which is headed by Member (Design & Research), CentralWater Commission and includes eminent earthquake experts and various specialists from the other associated organisations. The Committee after careful examination and deliberation, finalises the seismic design parameters to be adopted for specific dam, in the country. The dams are designed using these seismic parameters recommended by NCSDP and as a result ofproper design and construction their seismic safety is ensured. The checking of earthquake stability forms a part of overall design of dam. The dams so designed can withstand the earthquake of maximum intensity likely to affect them in respective seismic zones of the country.

In respect of existing dams, the seismic safety is a part of overall safety aspect of dams and is taken care of under the National Dam Safety Programme coordinated by the National Committee onDam Safety (NCDS)under the chairmanship of Chairman, Central Water Commission. All the States having significant number of dams are represented in the National Committeeon Dam Safety and the Departments of the States concerned arrange safety reviews, including the seismic reviews, of large dams which are more than 15 metres in height by an independent panel of experts, once in 10 years. Thus the seismic safety of the dams in the country is ensured by adopting proper design by considering appropriate seismic parameters as well as by carrying out safety reviews during the subsequent stage.

India as a whole is divided into 4 seismic zones and all the 4525 large dams of the country (out of which 475 dams are under construction) lie in one or other of these four zones. Seismicity in the vicinity of the recent dam is monitored by suitable instrumentation, observation and analysis by the concerned States. It is upto the owners of the dams to take up alarm system along the banks of the rivers.